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A292.9 and WILLOW CREEK WATERSHEDS

UMATILLA RIVER, WALLA WALLA RIVER

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WATER SUPPLY OUTLOOK

as of

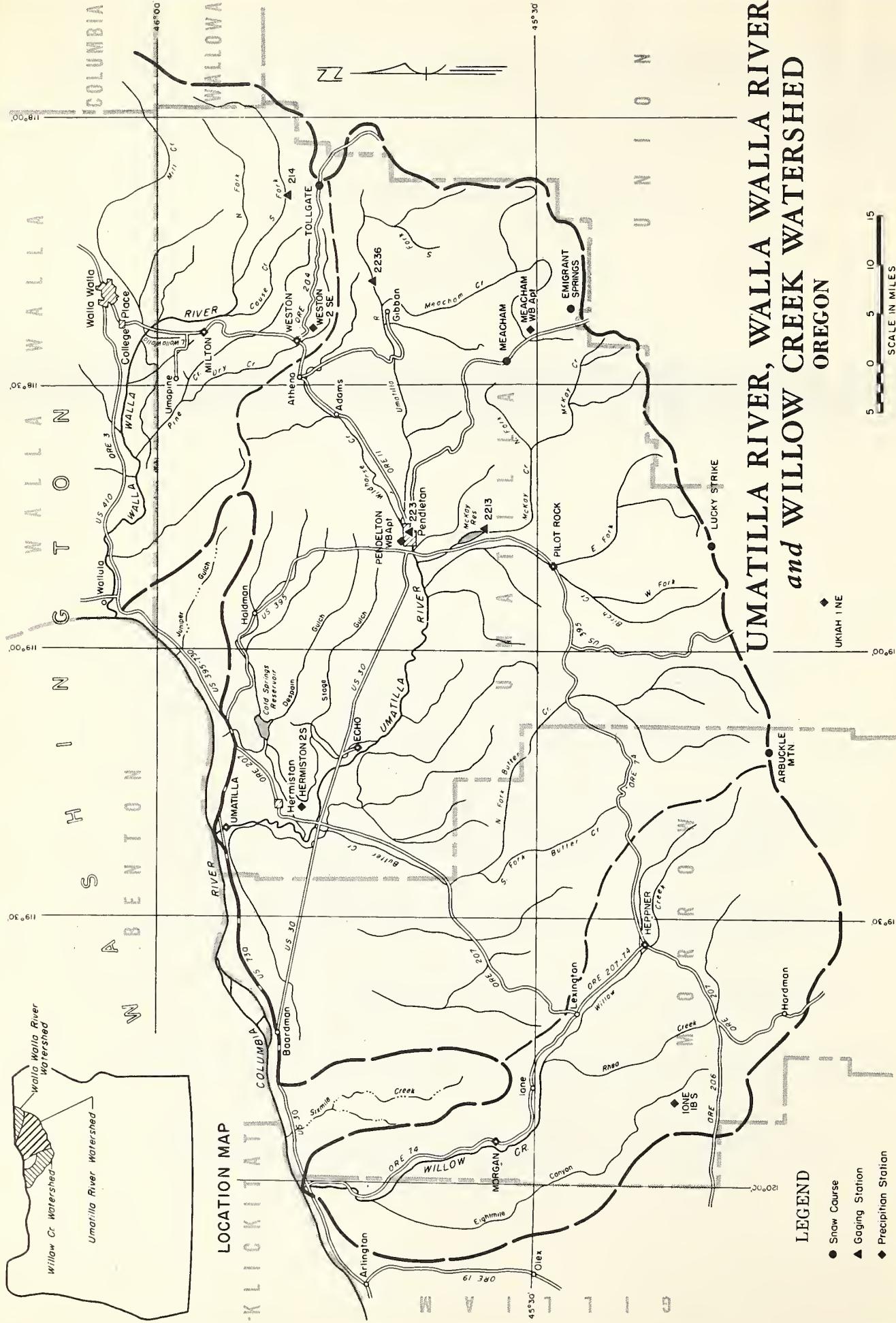
APRIL 1, 1955

U. S. SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT STATION

S U M M A R Y

Page

- 1 Water Supply Outlook: Adequate water for Walla Walla basin lands seems assured although ground-water levels are below average. Water in Umatilla basin is adequate except for short storage in the McKay reservoir which will require careful use to go through the season. Birch, Butler, Willow and Rhea Creeks will have at least one good irrigation.
- 2 Streamflow Forecasts: The Walla Walla South Fork is forecast to discharge 92 percent of the 10 year average. Umatilla at Pendleton will flow 121 percent and McKay Creek near Pilot Rock about 113 percent for the April-September period.
- 2 Reservoir Storage: Cold Springs reservoir will probably fill but McKay has only 20,200 acre feet and will not fill this year.
- 2 Soil Moisture: All soils in mountain watersheds are very dry and will take up much early snow-melt water.
- 3 Snow-Cover: Snow-cover on the Walla Walla River is 108 percent average. The average in the Umatilla is 138 percent and on Willow Creek is 133 percent.
- 3 Precipitation: Fall precipitation in this area was 68 percent average and for the entire period was 65 percent average.



UMATILLA RIVER, WALLA WALLA RIVER and WILLOW CREEK WATERSHED OREGON

SCALE IN MILES

WATER SUPPLY OUTLOOK
For April-September, 1955^a

Source of Water	Acreage Irrigated	Outlook
<u>Walla Walla Basin</u>		
Mill Creek		Supplies water for city of Walla Walla. Flow will be adequate and will be about 32,000 acre feet in the next six months.
North Fork Walla Walla	124	Adequate water supplies about the same as last year.
South Fork Walla Walla	348	Adequate water and about the same as last year.
Main Walla Walla	1,344	Adequate for usual irrigation.
<u>Little Walla Walla</u>		
	13,700	Adequate water for all rights including Hedson Bay and Plainview Ditches.
Mud Creek	373	Satisfactory water supplies for usual uses.
Dry Creek	1,207	Some late season shortages--otherwise adequate.
Pine Creek	759	Some late season shortages--otherwise adequate.
Dugger Creek	595	Some late season shortages--otherwise adequate.
Johnson Creek	110	Some late season shortages--otherwise adequate.
<u>Umatilla Basin</u>		
Main Umatilla	12,074	Early season water will be adequate. Late season supplies dependent upon summer rains which help to sustain late season flow.
Umatilla and Cold Springs	6,000	Expected to be adequate this season.
Umatilla and McKay Res.	9,693	McKay storage is very short but with good summer rains the supplies will be adequate.
McKay Creek	280	One irrigation only--late season water will be short.
Birch Creek	1,000	One good irrigation--early water rights may get more.
Butter Creek	6,000	One good irrigation--early water rights may get more.
<u>Willow Creek Basin</u>		
Willow and Rhea Creeks	11,780	One good irrigation for all lands--early water rights may get more. Snow-cover is better than last year but all soils are very dry.

a - Assuming normal meteorological conditions during the
April - September period.

STREAMFLOW FORECASTS^a
As of April 1, 1955

No.	Name	Gaging Station			1955 as % of Avg.
		Forecast 1955	Forecast Period	Avg. 1943-52	
214	Walla Walla So. Fk. nr. Milton	72.0	Apr.-Sept.	78.0	92
214	Walla Walla So. Fk. nr. Milton	59.0	Apr.-July	64.2	92
2236	Umatilla R., nr. Gibbon	120.0	Apr.-Sept.	97.8	123
223	Umatilla R., at Pendleton	230.0	Apr.-Sept.	189.5	121
223	Umatilla R., at Pendleton	225.0	Apr.-July	184.8	122
2213	McKay Cr., nr. Pilot Rock	34.0	Apr.-Sept.	30.1	113
2213	McKay Cr., nr. Pilot Rock	33.4	Apr.-July	30.0	111

RESERVOIR STORAGE

Reservoir	Usable Capacity 1000 a.f.	Thousand a.f. in storage about April 1, 1955					1955 as % of 10 Yr. Avg.
		1955	1954	1953	10 Yr. Avg. 1943-52	10 Yr. Avg.	
McKay	74.0	20.2	43.9	65.3	59.5		34
Cold Springs	50.0	42.3	50.0	44.2	48.0		88
Total (2 Reservoirs)	124.0	62.5	93.9	109.5	107.5		58

SOIL MOISTURE

Soils In:	Fall Status	Current status as of April 1, 1955
Valleys (irrigated)	Drier than usual	Drier than usual.
Mountains	Very dry	Very dry under snow-cover.

Snow Cover
As of April 1, 1955

No.	Name	Snow Course		1955		Water Content (in)			1955 as % of Avg.
		Elev.		Snow Depth (in)	Water Content (in)	1954	1953	Average	
--- below 4500' ---									
18D4	Emigrant Sprgs.	3925'	40	13.3	0.4	2.8	5.5	242	
18D5	Meacham	4300'	52	19.0	3.3	8.9	8.4	226	
Average				--	16.2	1.8	5.8	7.0	231
--- above 4500' ---									
19D2	Arbuckle Mtn.	5400'	43	14.2	8.9	17.1	10.7	133	
18D6	Lucky Strike	5050'	47	14.3	11.3	19.5	13.4	107	
18D3	Tollgate	5070'	81	29.9	25.3	30.0	27.7	108	
Average				--	19.5	15.2	22.2	17.3	113
Average (5 courses)					18.1	9.8	15.7	13.1	138

PRECIPITATION DATA
1954-55

Station		Precipitation (inches)										Avg.	Avg. as % of Normal
Name	Elev.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Avg.	Normal*			
Echo	601	0.68	0.48	0.70	0.65	0.53	0.48	0.70 ^e	0.60	1.02		59	
Heppner	1950	0.55	0.52	0.91	0.87	0.56	0.74	1.30	0.78	1.24		63	
Hermiston 2S	624	0.50	0.39	0.81	0.70	0.52	0.56	0.52 ^e	0.57	0.87		66	
Ione 18S	1925	0.40	0.78	0.71	0.64	0.80	0.55	1.18 ^e	0.72	1.24		58	
Meacham WB Apt	4050	1.18	1.37	2.20	4.96	2.66	2.54	3.59	2.64	3.70		71	
Milton Freewater	1056	0.30	0.81	1.27	0.91	1.00	0.52	0.63	0.78	1.38		57	
Morgan	783	0.80	0.54	0.87	0.88	0.51	0.72	0.70	0.72	.94		77	
Pendleton WB.AP	11489	0.75	0.83	1.21	1.00	0.83	0.44	0.62	0.81	1.41		57	
Pilot Rock	1640	0.74	0.65	0.76	0.81	0.76	0.64	0.95	0.76	1.24		61	
Ukiah INE	3340	Insufficient Data										--	
Umatilla	285	0.76	0.37	0.88	0.78	0.52	0.33	0.62	0.61	0.83		73	
Weston 2SE	2100	Insufficient Data										--	
Average		0.67	0.67	1.03	1.22	0.87	0.75	1.08	0.90	1.39		65	
Avg. Normal*		0.72	1.15	1.63	1.66	1.68	1.51	1.36					
Avg. as % of Normal		93%	58%	63%	73%	52%	50%	79%					
Fall Avg. as % of Fall Normal (Sept-Oct-Nov)		68%											
* Based on USWB data												e - estimated	

